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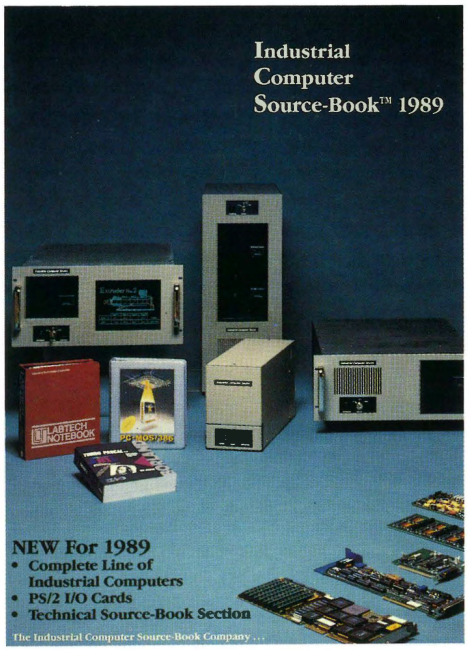

FEATURES
- **Industrial Rack Computers**
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- **NEW 386 CPU Cards**
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- **Apple MAC II Analog/Digital I/O Cards**
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9500 Tower Chassis

NEW

Model 9500

FEATURES

- 15 Slot industrial backplane or
- 286/386 Motherboard options
- Floor mounted
- Supports 3 Full height drive
- (2) 112 CFM cooling fans
- 250 Watt power supply
- 110/220 Volt operation

The 9500 Tower Series Industrial chassis provides a rugged, flexible floor mounted enclosure. Made of heavy duty 16 gauge steel, the 9515 chassis incorporates an IBM PC compatible backplane with 15 slots. The 9508 chassis is designed to accept a standard IBM PC/AT motherboard.

The 9500 tower chassis provide mounting space for 3 full height or 6 halfheight devices. These can be either floppy or hard disk drives. Unlike office-grade PC's the 9500 tower chassis are designed to withstand shock, vibration and a wide temperature range.

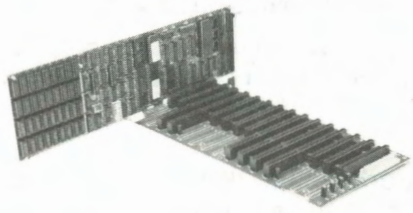
Operation - Hardware

The 9500 Tower series is designed to be serviced without special tools. Anyone with a standard screwdriver can access any system component. This modular construction means service can be completed in minutes. The overall system performance is increased by using two fans to provide air flow to areas that generate the most heat. The Tower has a 250 Watt power supply with selectable 110/220 VAC operation for international requirements. Front and rear keyboard connectors are provided. "Power on" LED indicator switch for Power-on and Reset are provided. The 9500 Tower includes a metal disk drive door to protect the drives from dust and dirt.

CPU's

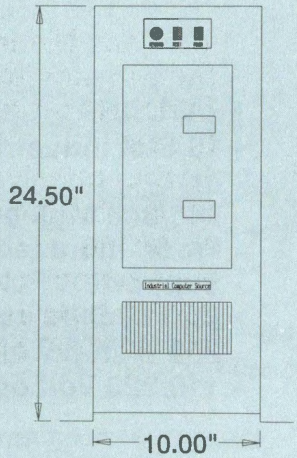
The 9500 Tower series incorporates either a passive backplane or utilizes a PC motherboard. The passive backplane provides the flexibility to install one of many plug-in CPU cards. These cards are explained on page 11. The motherboards are listed on page 12. The combination of plug-in CPU cards and motherboards allows the user to select the CPU that fits the application and budget needs.

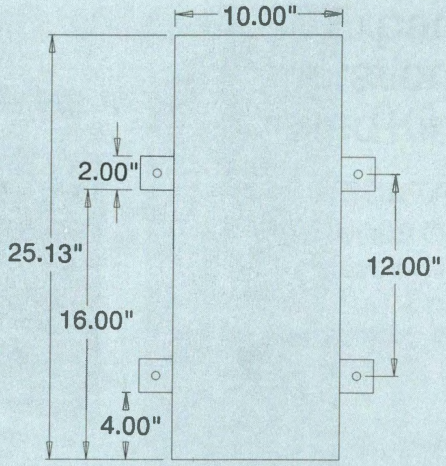
The 9500 Tower chassis measures 10" wide x 25 1/8" deep x 24 1/2" high.



Dimensional Outlines

9500
Front View





9500
Top View

Specifications

Power Supply
250 Watt power supply with cooling fan, 30 Amps on the 5 Volt line, 7 Amps on the 12 Volt, 1 Amp on the -12 Volt, 1 Amp on the -5 Volt. 110/220 VAC power, 47-63 HZ

Backplane-9515
6 layer, 15 slot passive backplane with 9 XT and 6 AT expansion slots. LED lights give a visual indication of all power supply voltages. (See page 10)

Motherboards-9508
The 9508 chassis will accept several of the standard motherboards including the motherboards on page 12.

CHASSIS

Color
Industrial Gray

Cooling
All standard chassis have two 112 CFM fans.

Construction
Heavy duty steel (16 gauge)

Weight
Approximately 60 lbs.

Dimensions
10" wide x 25 1/8" deep x 24 1/2" high

OPERATING ENVIRONMENT

Operating Temperature
0-50 deg C

Non-operating Temperature
0-70 deg C

Relative Humidity
10-85 % non-condensing

Altitude
10,000 ft

Vibration
1 G max 60-500 cycles, 0-60 cycles operating

Meets FCC Part 15, class A emission limits.

Configuration Guide

Model 9508-26H **$1795.00**
Motherboard mounting

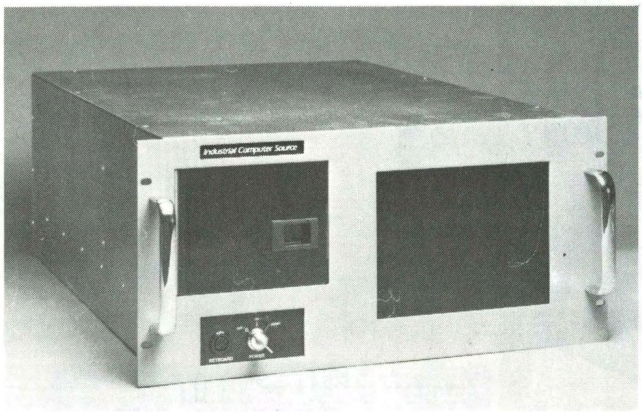
Model 9515-26H **$1995.00**
15 slot passive backplane

See page 9 for ordering information on CPU cards, Video cards, Floppy and Hard Disk Drives, Controller cards, etc.

8531 & 8532 Rack Mounted Computers

NEW

Model 8531



FEATURES

- 19" Rack Mountable Chassis
- Built-In monitor
- Supports up-to 3 half height drives
- 10 Slot passive backplane
- Supports Plug in CPU, 80286 or 80386
- High output cooling fans
- 250 Watt power supply, 110/220 volt operation

The 8531 Rack Mounted Computer is a rugged, all steel chassis that contains a 250 Watt power supply (110/220 VAC operation), monitor, cooling fan that provides positive air flow, and a 10 slot passive backplane. The 8531 provides mounting for up to 3 half height drives. These can be either floppy disk or hard disk drives. Unlike office-grade PC's, the 8531 is designed to withstand shock, vibration and a wide temperature range.

Operation-Software

The 8531 computer supports all the popular industrial control, laboratory and scientific software packages. You can run all exisiting MS-DOS applications, or if your application requires a Multi-tasking or Multi-user operating system, you may select any of several on the market.

Operation-Hardware

The 8531 is designed to be serviced without any special tools. Anyone with a standard screwdriver can access any system component. This modular construction means service can be completed in minutes, the estimated MTTR (Mean Time To Repair) is 30 minutes. The overall system performance is increased by using fans to provide air flow to areas that generate the most heat.

Standard Chassis Features

The 8531 has a 250 Watt power supply with a selectable 110/220 VAC operation for international requirements. In addition, a fused AC receptacle provides for overload protection. Front and rear keyboard connectors are provided. "Power-on" LED indicator switch for Power-On and Reset are provided. The 8531 has a 112 CFM fan plus a 24 CFM fan. The 112 CFM fan provides the cooling for the I/O card area, the 24 CFM provides cooling for the Power supply. The 8531 includes a metal disk drive door to protect the drives from dust and dirt. The 8531 measures 8.75" high x 19" wide x 24" deep and weighs 50-70 pounds depending on the configuration.

CPU'S

The 8531 chassis incorporates a 10 slot passive backplane design and can be configured as an IBM compatible PC/AT, or 386 PC/AT system. The passive backplane provides the flexibility needed in the lab and on the factory floor. The B286 CPU is a 10MHz IBM PC/AT plug in card. The B286 contains an 80286 16-bit microprocessor with an optional 80287 math co-processor. The B386 CPU card is functionally equivalent to a 16MHz IBM PC/AT, it has an 80386 32-bit microprocessor and provision for an optional 80387 math co-processor. (See detailed information on the CPU cards on page 11).

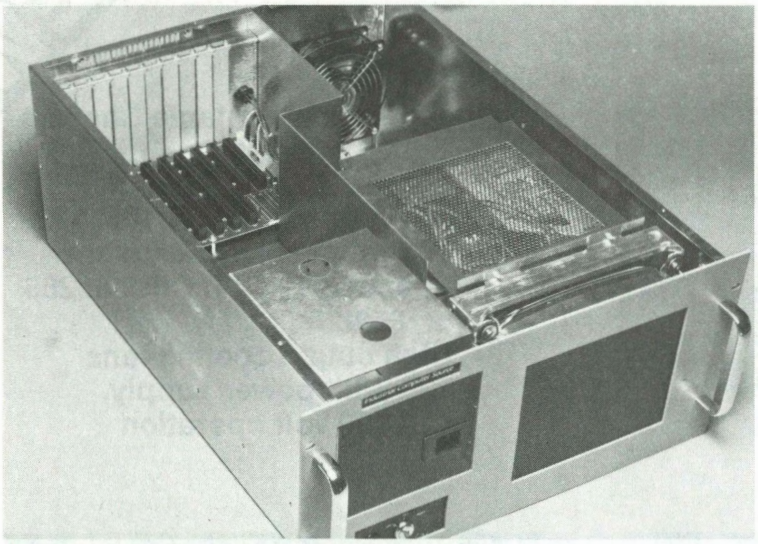
Applications

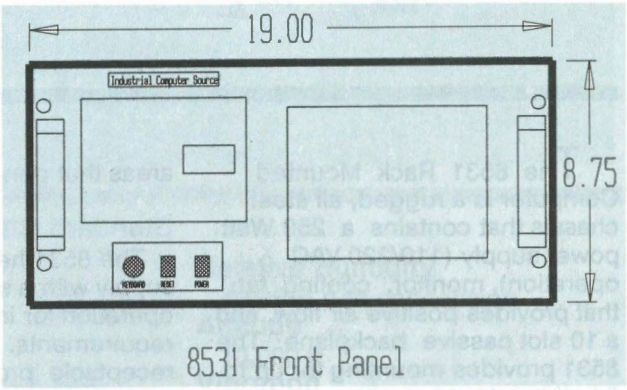
The 8531 Rack mounted computer may be used in a wide range of industrial/laboratory applications including Lab Automation, Research and Development, Educational, Distributed Process Control, or Military projects. The 8531 computer with a plug-in CPU card, disk drive, and Multi-port serial communications card can be configured as a Lab Workstation, Communication Node, Man-machine interface for PLC's (Programmable Logic Controllers) or cell controller. As a cell controller the 8531 can communicate and coordinate with other lab/factory floor devices like Robots, Vision Systems, Programmable Controllers, and Motion Controllers.

Options

The 8531 has sufficient room to add optional functions. A wide selection of CPU's are available to the user. As the application requirements grow, it's easy to upgrade to a more powerful CPU. All standard IBM PC/AT plug-in cards will operate in the 8531 computer.

Dimensional Outlines





8531 Front Panel

Specifications

Power Supply
250 Watt power supply with cooling fan, 30 Amps at 5 Volt, 7 Amps at 12 Volt, 1 Amp at -12 Volt. 1 Amp at -5 Volt, 110/220 VAC power, 47-63 HZ.

Backplane
6 layer, 10 slot passive backplane with 5 XT and 5AT expansion slots. LED lights give a visual indication of all power supply voltages. Dimensions are 8 3/4" L x 6 1/2" W.

Chassis

Color
Industrial Gray standard. Other colors optionally available

Cooling
112 CFM and a 24 CFM fans

Construction
16 gauge steel and aluminum

Dimension
8.75" high x 19" wide x 24" deep

Weight
50-70 pounds, depending on the configuration

Monitors
9" CGA, 9" Monochrome, 9" EGA 13" VGA, and 13" Monochrome Call for specifications

Environment

Operating Temperature
0 - 50 deg C

Non-operating Temperature
0 - 70 deg C

Relative Humidity
10-85% non-condensing

Altitude
10,000 ft , depending on configuration

Vibration
1 g max 60-500 cycles, 0-60 cycles operating
Meets FCC Part 15, class A emission limits.

Ordering Guide

Model 8531-RM $3975.00
8531 Chassis, 250 watt P/S, 10 slot passive backplane, and 9" MGA monitor.

Model 8531-RC $4375.00
8531 Chassis, 250 watt P/S, 10 slot passive backplane, and 9" CGA monitor.

Model 8531-RE $4775.00
8531 Chassis, 250 watt P/S, 10 slot passive backplane, and 9" EGA monitor

Model 8532-RM $4475.00
8532 Chassis, 250 watt P/S, 10 slot passive backplane, and 13" MGA monitor.

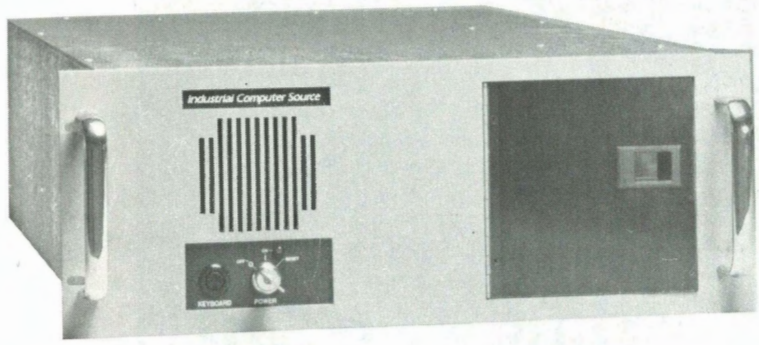
Model 8532-RV $4875.00
8532 Chassis, 250 watt P/S, 10 slot passive backplane, and 13" VGA monitor.

To configure custom system, see page 9 for ordering information on CPU cards, Video cards, Floppy and Hard Disk Drives, Controller cards, etc.

30 Day Unconditional Warranty

7500 & 7600 Series Chassis

NEW



Model 7515-24H

FEATURES

- 15 Slot backplane or standard IBM PC/AT motherboard mounts
- 19" Rack mounted (7500 series)
- Table top (7600)
- Supports 4 half height drives
- Front and rear keyboard connector
- 112 CFM cooling fan, 248 CFM optional
- 250 Watt power supply
- 110/220 VAC power supply

The 7500/7600 Series XT/AT Industrial chassis provide rugged, flexible enclosures. The 7500 Series chassis is a 19" Rack Mounted chassis and the 7600 series chassis is a Table Top version. Made of heavy duty steel, the 7515 chassis incorporates an IBM PC compatible backplane with 15 slots. The 7508 chassis is designed to accept a standard IBM PC/AT motherboard. All 7500 series chassis can be installed in a standard 19" industrial rack. The 7500 chassis is capable of having 4 half height disk drives installed. These can be either floppy or hard disk drives. Unlike office-grade PC's, the 7500/7600 series is designed to withstand shock, vibration and a wide temperature range.

Operation-Software

The 7500/7600 series chassis and standard CPU cards support all popular industrial control, laboratory and scientific software packages. You can run all your exisiting MS-DOS applications or if your application requires Multi-tasking or Multi-user operating systems you may select one of several operating systems on the market.

Operation-Hardware

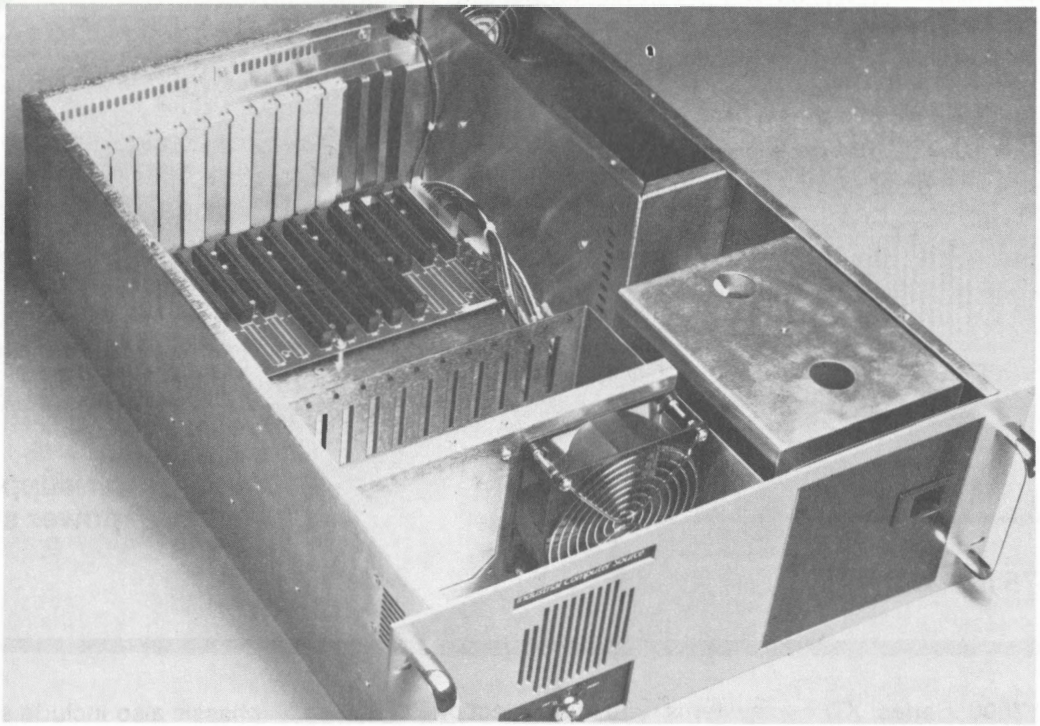
The 7500/7600 series is designed to be serviced without special tools. Anyone with a standard screwdriver can access any system component. This means service can be completed in minutes. The estimated MTTR (Mean Time To Repair) is 10 minutes. Because the filtered air flow provides cooling to areas that generate heat, the overall system preformance is improved.

Standard Chassis Features

The 7500/7600 series have a 250 Watt power supply with selectable 110/220 VAC operation for international requirements. In addition a fused AC receptacle provides overload protection. Front and rear keyboard connectors are provided along with "power on" LED indicator and optional keylock. All 7500/7600 series chassis have two fans, the main fan at 112 CFM plus a 24 CFM fan. As an option it's possible to add one more 112 CFM fan, for a total of 248 CFM. The positive pressure is built up inside to keep dust and dirt from getting into the disk drives. All 7500/7600 chassis also include a metal disk drive door to protect the drives from dust and dirt. The 7500 chassis measures 19" wide x 23" deep x 7" high. The 7600 chassis measures 17" wide x 23" deep x 7" high.

CPU'S

The 7515/7615 chassis incorporate a 15 slot passive backplane design and can be configured as an IBM PC/AT, or a 386 PC/AT system. The passive backplane provides the flexibility needed in the lab and on the factory floor. The B286 is an IBM PC/AT plug-in card. The B286 contains an 80286 16-bit microprocessor with an optional 80287 math co-processor. The B386 CPU card is functionally equivalent to the IBM PC/AT. It has an 80386 32-bit microprocessor and an optional 80387 math co-processor. (See detailed information on page 11 for CPU cards).



Specifications

Power Supply

7XXX-2XX

250 Watt power supply with cooling fan, 30 Amps on the 5 Volt, 7 Amps on the 12 Volt, 1 Amp on the -12 Volt, 1 Amp on the -5 Volt. 110/220 VAC power, 47-63 HZ.

Backplane

7515/7615

6 layer, 15 slot passive backplane with 9 XT and 6 AT expansion slots. LED lights give a visual indication of all power supply voltages. Dimensions are 12 3/4" x 6 1/2".

Chassis

Color

Industrial Gray

Cooling

All standard chassis have a 112 CFM fan and a 24 CFM fan. Optional second 112 CFM.

Construction

Heavy duty steel

Weight

50-70 pounds, depending on the configuration

*** Depending on configuration.**

Dimensions

7500 Series

19" wide x 23" deep x 7" high

7600 Series

17" wide x 23" deep x 7" high

Operating Environment

Operating Temperature

0 - 50 deg C

Non-Operating Temperature

0 - 70 deg C *

Relative Humidity

10-85 % non-condensing

Altitude

10,000 ft *

Vibration

1 g max 60-500 cycles, 0-60 cycles operating *

Meets FCC Part 15, class A emission limits.

7508/7608 Chassis

Chassis

Color

Industrial Gray

Motherboards (see page 12 for specifications)

Cooling

All standard chassis have a 112 CFM fan and a 24 CFM fan

Construction

Heavy duty steel

Weight

50-70 pounds, depending on the configuration

Operating Environment

Operating Temperature

0 - 50 deg C

Non-Operating Temperature

0 - 70 deg C *

Relative Humidity

10-85 % non-condensing

Altitude

10,000 ft *

Vibration

1 g max 60-500 cycles, 0-60 cycles operating *

Ordering Guide

Model 7515-24H $1395.00

19" Rack mount chassis, 250W p/s, 15 slot passive backplane.

Model 7615-24H $1395.00

Table top chassis, 250W p/s, 15 slot passive backplane.

Model 7508-24H .... $ 995.00

19" Rack mount chassis, 250W p/s for IBM PC/AT motherboard.

Model 7608-24H .... $ 995.00

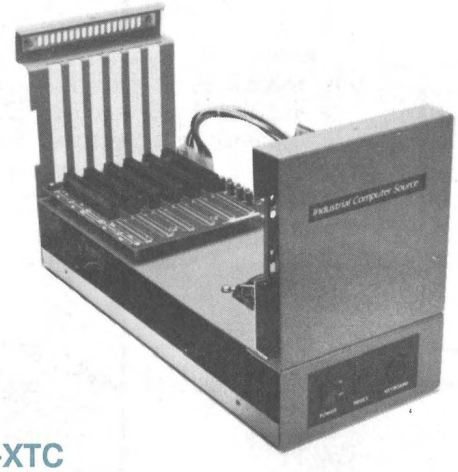
Table top chassis, 250W p/s for IBM PC/AT motherboard.

To configure custom system, see page 9 for ordering information.

To Order Call: 1-800-523-2320

PC Node Diskless Computer

NEW



Model NODE-XTC

FEATURES

- 6 Slot passive backplane
- Rugged industrial package
- 75 Watt power supply
- 24 CFM filtered fan
- Diskless operation
- Keyboard connection

The NODE-XTC and the NODE-ATC chassis are ideally suited for systems integrators as well as end users looking for a small Industrial PC or PC/AT compatible system. The basic NODE consists of a 6 slot system chassis with a passive backplane, 75 Watt power supply and fan. The complete system is about the size of a shoebox, allowing installation on the factory floor or inside NEMA enclosures. The NODE is designed for installation in high-vibration high-temperature, high-contamination environments. The system can operate without a keyboard or monitor. With a Bubble memory card or a Static RAM card, the NODE can be configured to operate without a disk drive.

Operation Software

The NODE series chassis and standard plug-in CPU card support all the popular industrial control, laboratory and scientific software packages. You can run all your existing MS-DOS application programs. The NODE can also be configured to be a diskless node on a network.

The NODE series is designed to be serviced without any special tools. Anyone with a standard screwdrivewr can access any system component. This means service can be completed in minutes, the estimated MTTR (Mean Time To Repair) is 10 minutes. The overall system performance is improved by the 24 CFM fan, which provides cooling to the areas that are generating heat.

Standard Chassis Features

The NODE series has a 75 Watt power supply with an optional 110/220VAC operation for international requirements. A rear keyboard connector is provided along with "power on" LED indicator. The six slot passive backplane with 4 LED's gives a visual indication of the power supply voltages. The NODE-XTC can also be used as an expansion chassis by using model ECIK interconnection kit.

CPU'S

The NODE chassis incorporates a 6 slot passive backplane design and can be configured as an IBM PC/XT, PC/AT or a 386 PC/AT system. The passive backplane provides the flexibility needed in the lab and on the factory floor. The B880 is a PC/XT plug-in CPU card, it is designed to operate and function like a standard IBM PC/XT. The B286 is an IBM PC/AT plug-in card. The B286 contains an 80286 16-bit microprocessor with an optional 80287 co-processor. The B386 CPU card is functionally equivalent to the IBM PC/AT, it has an 80386 32-bit microprocessor and an optional a 80387 math co-processor. (see page 11 for more detailed information on the CPU cards).

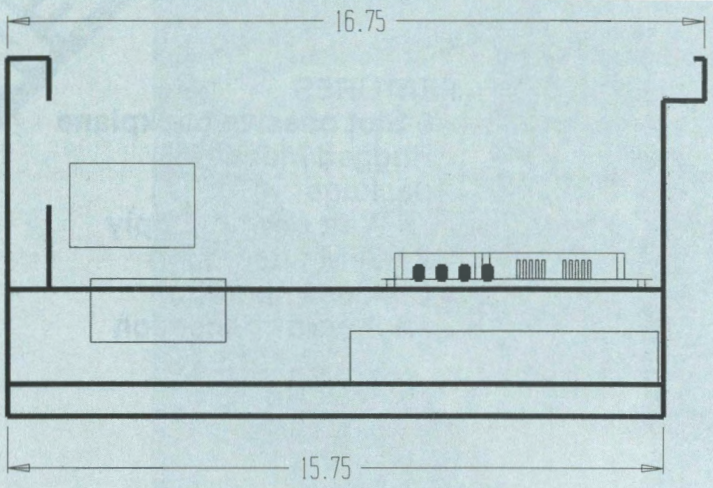
Applications

The NODE series chassis may be used in a wide range of industrial applications, including Factory Automation, Data Acquisition Distributed Process Control, Research and Development, Pilot Plant Operations, Military and Educational Projects. The NODE series configured with either Bubble memory or Static RAM can be used as a Communications Node or a Cell controller. The NODE is designed for harsh environments.

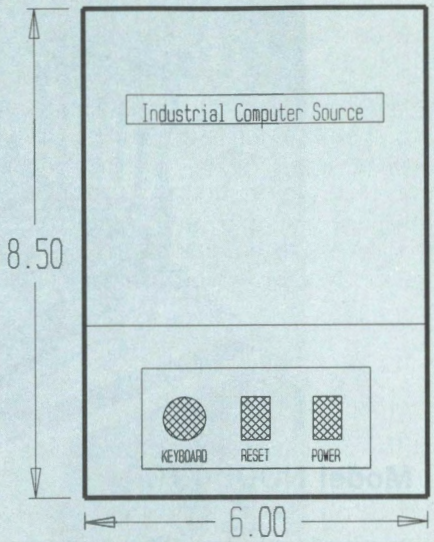
Expansion Chassis

Use the Node-XTC as an expansion chassis by using the model ECIK for a total 4 XT slot system expansion. Tested on systems upto 10MHz, the ECIK includes 2 buffered PC boards and a shielded 1 meter interconnect cable. Consult Industrial Computer Source for compatibility of cable set.

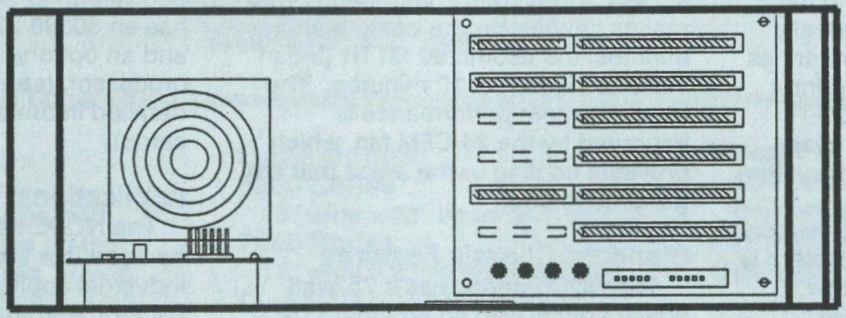
Dimensional Outlines



Node Side View (Right)



Node Front View



Node Top View

Specifications

Power Supply
75 Watt power supply with cooling fan.
7 Amps on the 5 Volt, 3 Amps on the 12 Volt, .25 Amps on the -12 Volt, .3 Amps on the - 5 Volt, 110/220 VAC selectable, 47-63 HZ

Backplane
Six slot passive backplane, the NODE-XTC has all 6 slot XT, the NODE-ATC has 3 AT and 3 XT slots.

Chassis

Color
Industrial Gray

Cooling
24 CFM fan

Construction
Heavy duty steel

Weight
20-25 lbs., depends on config.

Dimensions
6" Wide x 9" High x 15.75" Deep

Operating Environment

Operating Temperature
0 - 55 Deg C

Non Operating Temperature
0 - 70 Deg C

Relative Humidity
10-85% non-condensing

Altitude
10,000 ft, depending on the configuration

Vibration
1g max 60-500 cycles, 0-60 cycles operating,
Meets FCC Part 15, class A emission limits.

Other operating specifications are dependent on your selection of optional CPU cards.

Ordering Guide

Model NODE-XTC . . . $ 595.00
Six slot XT chassis, 75 Watt power supply, and fan.

Model NODE-ATC . . . $ 695.00
Six slot chassis (3 AT, 3 XT), 75 Watt power supply, and fan.

Model ECIK . . . . . $ 425.00
Card set and cable.

To configure a custom system, see page 9 for ordering information on CPU cards, Video cards, Floppy and Hard Disk Drives, Controllers cards, etc.

For Technical Support: 619-279-0084

Configuration Guide

How to Configure a Complete System

The 9500, 8500, 7500 and Node Series can be configured to fill your needs by simply specifying the system components listed below. Options include: CPU cards, floppy disk drives, hard disk drives, memory, keyboards, math co-processors, video cards, printers, operating systems, etc. If you purchase a computer from us, you won't get a box of parts, but a completely integrated and tested system. The hard disk will be installed, formatted and tested. The math coprocessor, extra memory, additional drives and tape backup systems all installed, burned in and tested.

At your request, we will gladly configure, install and test optional I/O cards and software. We offer the components and industry experience to make your selection painless and worry free. From a PC to a "386" we have it and we guarantee it will work.

System Components

CPU's

Model B286-1MEG	$1395.00
Model B386-2MEG	$2445.00
Model B386-4MEG	$4445.00
Model B386-8MEG	$7245.00

Video

Model MULTI-EGA	$ 325.00
Model VEGA	$ 379.00
Model VGA+	$ 499.00
Model HT-SHORT	$ 199.00

Floppy Disk Drives

Model FD-360K (5 1/4")	$ 195.00
Model FD-1.2M (5 1/4")	$ 225.00
Model FD-720K (3 1/2")	$ 250.00
Model FD-1.4M (3 1/2")	$ 275.00

Hard Disk Drives

Model HD-20MB	$ 495.00
Model HD-40MB	$ 650.00
Model FHD-20MB (40ms)	$ 550.00
Model FHD-40MB (28ms)	$ 995.00
Model FHD-70MB (28ms)	$1495.00
Model PTI-20MB	$ 650.00
Model PTI-40MB	$ 795.00
Model PTI-60MB	$1195.00

Disk Emulators

Model PCE-180 (EPROM)	$ 395.00
Model PCE-360 (EPROM)	$ 495.00
Model PCE-786 (EPROM)	$ 695.00
Model PCE-1.2 (EPROM)	$ 995.00
Model PCE-SRAM-180K	$ 595.00
Model PCE-SRAM-360K	$ 795.00
Model PCE-SRAM-786K	$1095.00

Plug-In Drive Cards

Model INBOARD-31	$ 695.00
Model 20MEG-DC (Drivecard)	$ 795.00
Model 30MEG-DC (Drivecard)	$ 895.00
Model 20MEG-HC (Hardcard)	$ 795.00
Model 40MEG-HC (Hardcard)	$ 995.00

Portable Disk Drives

Model TRANS-10 (10MEG)	$ 895.00
Model TRANS-20 (20MEG)	$1295.00
Model TRANS-30 (30MEG)	$1695.00

Controller Cards

Model AT-HDCC	$ 275.00

AT Floppy/Hard disk controller

Memory

Model AT MEM000-SP (0.0M RAM)	$ 249.00
Model AT MEM150-SP/120 (1.5M RAM)	CALL
Model AT MEM300-SP/120 (3.0M RAM)	CALL

Math Coprocessors

Model 80287-6 (6MHz)	$ 295.00
Model 80287-8 (8MHz)	$ 410.00
Model 80287-10 (10MHz)	$ 490.00
Model 80387-16 (16MHz)	$ 795.00
Model 80387-20 (20MHz)	$1195.00

Communication Cards

Model SPC20	$ 95.00
Model SPRT2/AT	$ 329.00
Model RS422-AT	$ 175.00

Keyboards

Model KB1 (Standard IBM keyboard)	$ 129.00
Model KB1/ENV (Environmental keyboard)	$ 249.00
Model KB2 (101 key)	$ 149.00

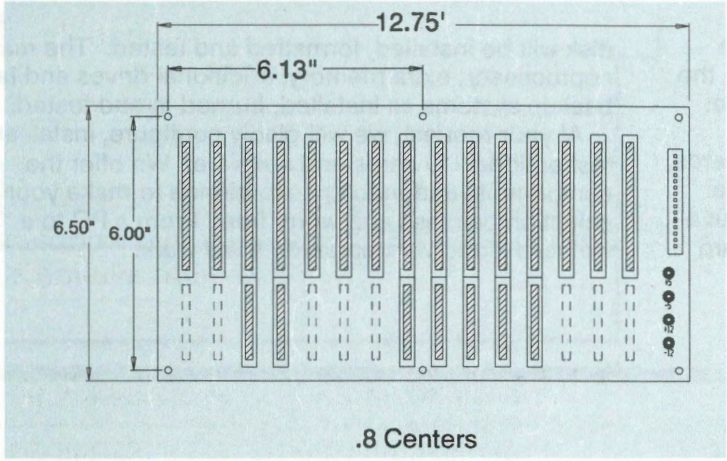
Chassis Slides

Model 7500-RMK (Fits 24-30" cabinets)	$ 75.00

***Note, be sure to include all model numbers as separate line items on your purchase order.**

Passive Backplane Cards

15 Slot Backplane

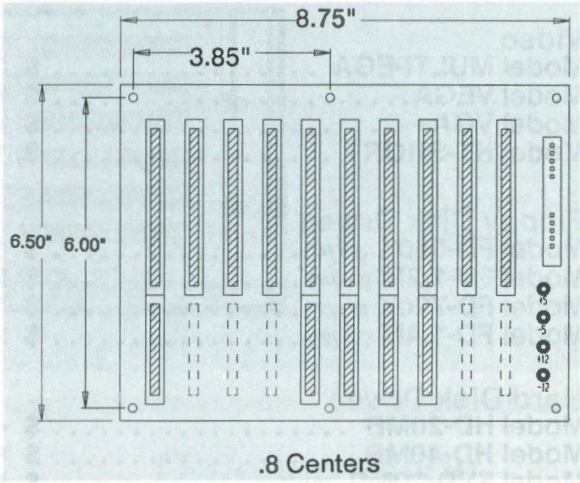


FEATURES
- 6 Layer PCB
- Power indicating LED's
- 6 AT and 9 XT slots

Model BP15-AT $275.00

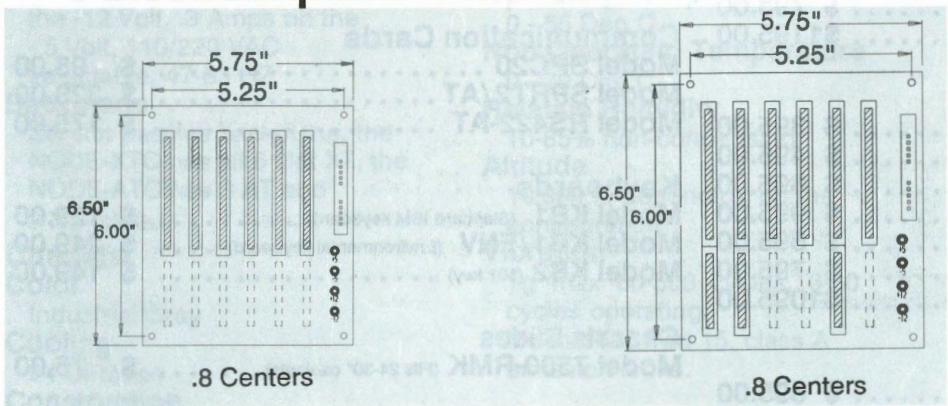
10 Slot Backplane

FEATURES
- 6 Layer PCB
- Power indicating LED's
- 5 XT and 5 AT slots



Model BP10-AT..... $225.00

6 Slot Backplane XT or AT



FEATURES
- 6 Layer PCB
- Power indicating LED's
- XT - 6 XT Slots or AT - 3 XT & 3 AT Slots

Model BP06-XT $150.00

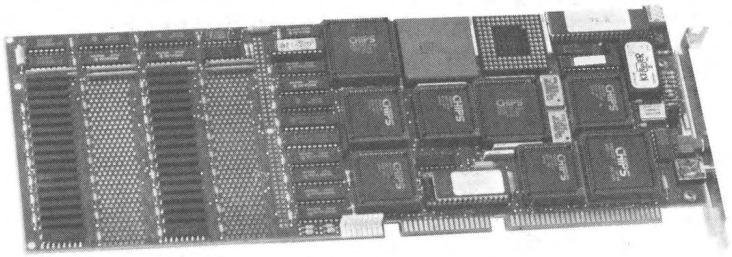
Model BP06-AT..... $175.00

Note: Special slot configuration available, call for quote.

Made In America

Plug-In CPU Cards

"386" Plug-In CPU Card



FEATURES
- IBM PC/AT Compatible
- 80386 Processor
- 16 MHz Clock speed
- 80387 Co-processor (optional)
- 8 Layer PCB
- Choice of memory capacity
- 20 MHz version available

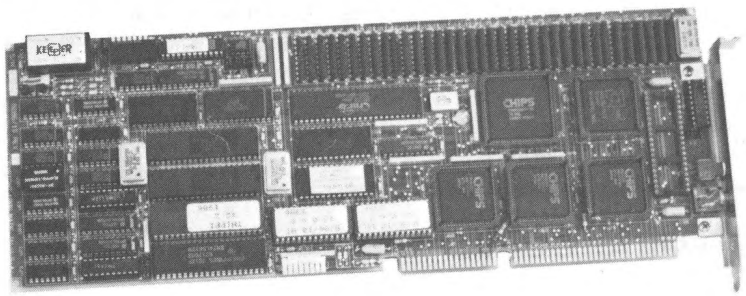
Model B386-2MEG $2445.00
2 Meg RAM

Model B386-4MEG $4445.00
4 Meg RAM

Model B386-8MEG $7245.00
8 Meg RAM

"AT" 286 Plug-In CPU Card

FEATURES
- IBM PC/AT Compatible
- 80286 Processor
- 6MHz, 16-Bit
- 80287 Co-processor
- 1 Meg memory on-board
- 6 Layer PCB

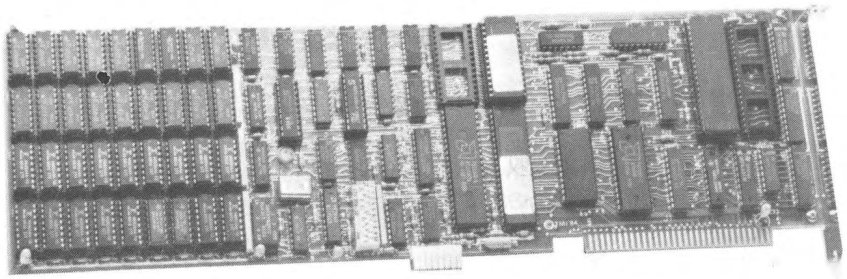


Model B286-1MEG ..... $ 1395.00
Plug-in 80286 CPU card with 1 meg memory

Model MACRO-1 ..... $ 995.00
Includes Solid State Disk, Mono/CGA/EGA Video, Floppy Disk Controller, Serial Port, and Parallel Port

Model 80287-SUK..... $ 49.00
Math co-processor speed up kit

"XT" 8088 Plug-In CPU Card



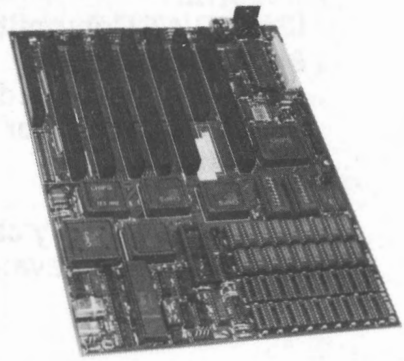
FEATURES
- IBM PC/XT Compatible
- 8088 Intel Processor
- 4.77 MHz
- 8087 Co-processor optional
- 640K Memory on board optional

Model B880-256 ..... $ 695.00
Plug in XT CPU card with 256K of memory on board

Model B880-640 ..... $ 795.00
Plug in XT CPU card with 640K memory on board

NEW

CPU Motherboards



FEATURES

- Intel 80286 CPU
- Award BIOS
- Socket for 80287 Co-processor
- 6 AT, 2 XT Expansion slots
- 512K RAM expandable to 1M on-board
- To 64K ROM on-board
- Wait State - 0 or 1 for on-board RAM
- Ports - Keyboard, reset, speaker, key lock
- 2.5A +5VDC Power required
- XT With mount holes for XT and AT chassis

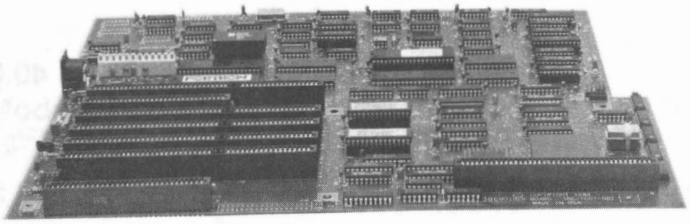
Model MB286-10

The MB286-10 Mother Board CPU is based on the Intel 80286 microprocessor chip and the latest technology in supporting chips. The MB286-10 has the same physical dimensions as a mini AT mother board but with fewer components permitting cooler and more reliable operation. The MB286-10 fits perfectly in the I.C.S. model 7508-24H industrial rack mount chassis or in other standard enclosures. The board has an XT footprint allowing it to be mounted in existing XT chassis for system upgrades.

Ordering Guide

Model MB286-10 . . . . . $995.00

386 Motherboard



FEATURES

- Intel 803286 CPU
- Sockets for 80287 and 80387 Co-processor
- 2Meg RAM on-board expandable to 16M
- Wait State - 0 for on-board RAM
- Keyboard, reset, speaker, serial, and parallel ports

Model MB386-16

The MB386-16 Mother Board CPU is based in the Intel 80386 microprocessor chip and the latest technology in supporting chips. The MB386-16 has the same physical dimensions as a standard AT mother board but with fewer components permitting cooler and more reliable operation. The MB386-16 fits perfectly in the I.C.S. model 7508-24H industrial rack mount chassis or in other standard enclosures. This board is perfect for upgrading existing AT's to the higher efficiency performance of the 80386 technology.

The mother board includes 2Meg of user RAM and is expandable to 16MB total memory. Memory management software is included with the mother board as well as complete and accurate documentation. Sockets are also provided for an optional math co-processor to speed up system throughput in heavily math or graphics oriented applications.

Ordering Guide

Model MB386-16 . . . . $2445.00

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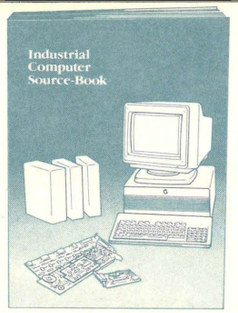

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The Industrial Computer Source-Book Company . . .

UP DATE

What Does **ICS** Stand For ?

During the last several years our customers have asked us "What Does ICS Stand For". ICS stands for Industrial Computer Source. When we started the company we felt it would be easier to just abbreviate Industrial Computer Source to ICS, but as we expand we feel it would be better to let all our customers know our "**REAL**" name. Starting with the 1988 Source Book you will notice our name has changed to Industrial Computer Source, please update your records.

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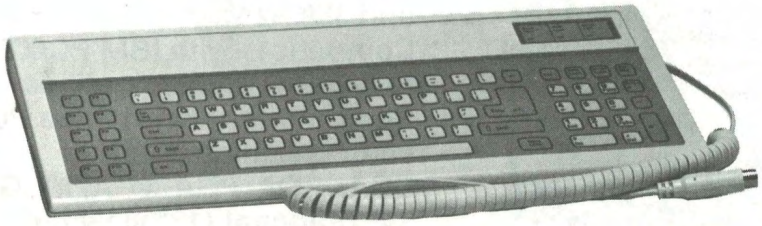
Contact Membrane Keyboard

Model KB1/ENV



FEATURES

- IBM PC and PC-AT plug compatible
- Tactile feedback
- Environmentally protected
- UL recognized and CSA certified
- Hard coated polycarbonate graphics
- MIL-STD-202E

Model KB1/ENV is a plug compatible replacement for IBM's PC and PC-AT personal computer keyboard. The keyboard uses an on-board microprocessor to automatically select the proper interface. The keyboard with enclosure and a 6 foot (extended length) coiled cord provides complete final package requirements for detached keyboard assemblies.

KB1/ENV is a full-function, intelligent Touch Panel Keyboard that combines the ultimate in graphic design versatility with the latest developments in environmentally protected membrane switching to guard contacts and other circuit elements from liquid spills, dust, and moisture. The keyboard is resistant to coffee, cola, oil, isopropyl alcohol mixed with mineral oil, fluorocarbon cleaning solvent, detergent, water soluble cleaning solvent.

Ordering Guide

Model KB1/ENV $249.00
IBM PC and PC-AT plug compatible 84 key touch panel. With enclosure and a 6-foot coiled cord.

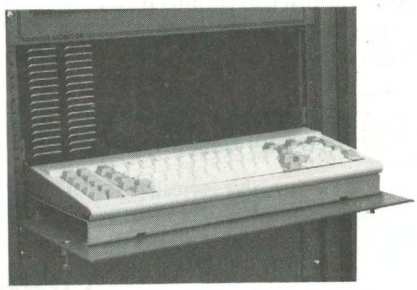
Model KB1 and KB2

FEATURES

- Rated at 50 Million Cycles
- Elastomer Protective Sheet Inhibits Dust and Liquid Contaminants
- Switch Selectable AT, PC/XT
- 0-50 Deg C
- 84 Key

Model KB1 ..... $129.00
Model KB2 ..... $149.00
101 Key, separate cursor/numeric pads, all other features same as KB1

Model 6531-KB



FEATURES

- 19-Inch Rack Mount
- IBM PC/AT-Compatible
- Locked Access
- 20-Key Operator's Keypad optional
- 6-Foot Coiled Cord

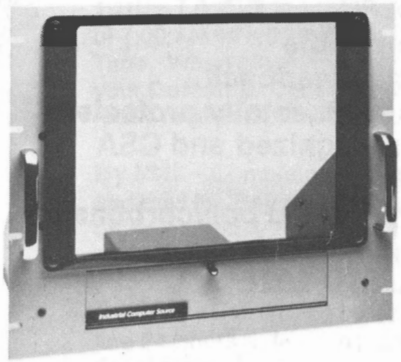
Model 6531-KB $595.00
Rack-Mount keyboard

Keypad Option

Model 6531-KB-PAD $795.00
Rack-Mount keyboard, includes 20-key operator

Rack Mount EGA Monitor & Rack Mount Kit

Model MULTISYNC-RM



Model MULTISYNC-II

FEATURES

- **Automatically scans all frequencies between 15.75KHz and 35KHz**
- **Compatible with IBM PC/XT, PC/AT, PC and look-alikes**
- **Compatible with all three PC color graphics boards**
- **CGA, EGA, PGA, VGA, MCGA**
- **14" Diagonal (13" viewing area)**
- **800 horz. x 560 vert. max resolution**
- **TTL and Analog inputs**

MultiSync is compatible with the PC, the XT, the AT, and with all three color adapter boards made by IBM because it employs unique IC technology to sense and adapt to incoming frequencies throughout the range from 15.75 to 35 KHz. . . and even beyond.

MultiSync employs unique technology, including a special power supply that automatically produces the right voltage at the yoke to accurately guide beams from the gun to the screen throughout the MultiSync frequency range, and a unique switching device to decode incoming color signals. There's also separate RGB amplification for uniform whiteness, adjustment to different kinds of synch, and both TTL and analog operation.

Rack Mount Kit

The MULTISYNC-RM is a 19-inch rack mount kit allowing the NEC MULTISYNC monitor to be used in an industrial environment. The MULTISYNC-RM kit provides a simple way to mount the NEC, with no modifications, in a 19-inch rack. A LEXAN overlay provides screen protection. The rack kit requires 15-3/4 inches of panel space and is 16 inches deep with the monitor installed. Provision is made for mounting optional slides.

Ordering Guide

Model MULTISYNC-II .. $899.00
Model MULTISYNC-RM. $350.00
19" Rack kit, and lexan cover
Model MULTI-EGA..... $325.00
Enhanced Graphics Adapter to 640 x 480 pel resolution.

High Performance Monochrome & CGA/RGB & EGA High Resolution Monitors

MonochromeMonitors

Model 310A (amber, 80 column) $230.00
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CGA/RGB and EGA Monitors

Model HX-12 ..... $695.00
CGA, .31mm Dot Pitch, 640 Dot Resolution & 12" Screen
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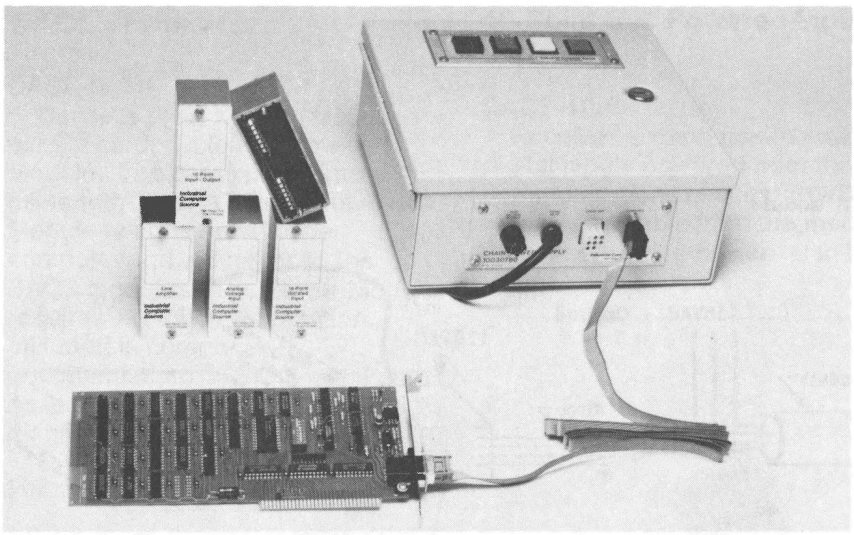
Distributed Acquisition Control System

NEW



FEATURES

- Only 4 wires for all I/O
- 2000 I/O in one slot
- Fast - scan 200 points in 1mS
- Mix Digital, Analog and Data on same cable
- Monitoring and control on same four wires
- RS232 Gateway
- Self configuring, no addressing
- Power via network cable
- NEMA 4
- Cable lengths to 1000 feet
- Cable extenders for >1000 feet

Distributed Acquisition Control System (DACS)

The DACS system is extremely simple. A single IBM PC/AT plug-in card will connect with a virtually unlimited number of I/O points using just 4 wires. Smaller systems (20 points) provide the same benefits as large systems (100 points). The remote modules provide single and multiple digital and analog I/O. The Digital I/O modules will read contact closures and provide high level (115VAC) outputs. The Analog I/O modules will read voltage or current inputs and output voltages or currents for control. There is even an RS232 Gateway for interfacing terminals in the field. The modules are rated NEMA 4 for unsurpassed reliability.

The software interface is as simple as reading or writing to a memory location unique to each module.

Single Cable

DACS only uses 4 wires to communicate with a virtually unlimited number of inputs and outputs. Each module is simply "daisy-chained" on the 4 wires. New modules can be added anywhere in the chain. Want a digital input for a new limit switch? Add the module at the point in the wire where the switch is located. Addressing is set automatically and no switches need be set.

The modules are designed to easily mount on standard conduit housings. When used with conduit, a totally sealed NEMA 4 system can be inexpensively installed. However, the modules could just as well be used with loose cable not run in conduit. The same conduit for the DACS wires can be used for 115VAC also; no need to separate the power from the signal lines.

Expanding your installation and out of spare wires? Use the existing wires for a DACS system without pulling new wire.

Cost

DACS installation costs are much lower than standard multi-point I/O cards. Conduit or soft cable for DACS is only $0.18-$1/foot. One of the largest costs in any system is wireways, wiring, cabinets and installation. Each point needs its own wire. Traditional bundled wire costs $8-$35/foot plus $4-$8/foot for installation. More I/O points require more wires, larger conduits, more costs. Analog and power signals shouldn't be in the same conduit. Conversly, DACS only requires 4 wires for any number of I/O and can be run with power wires.

All installations require spare conductors for future expansion. This adds unnecessary up-front costs. DACS doesn't require any spares because no additional wires will ever be needed.

For multiple-point installations remote from the PC, DACS will be considerably more cost effective than conventional I/O cards and wiring or distributed control systems.

System Check-Out

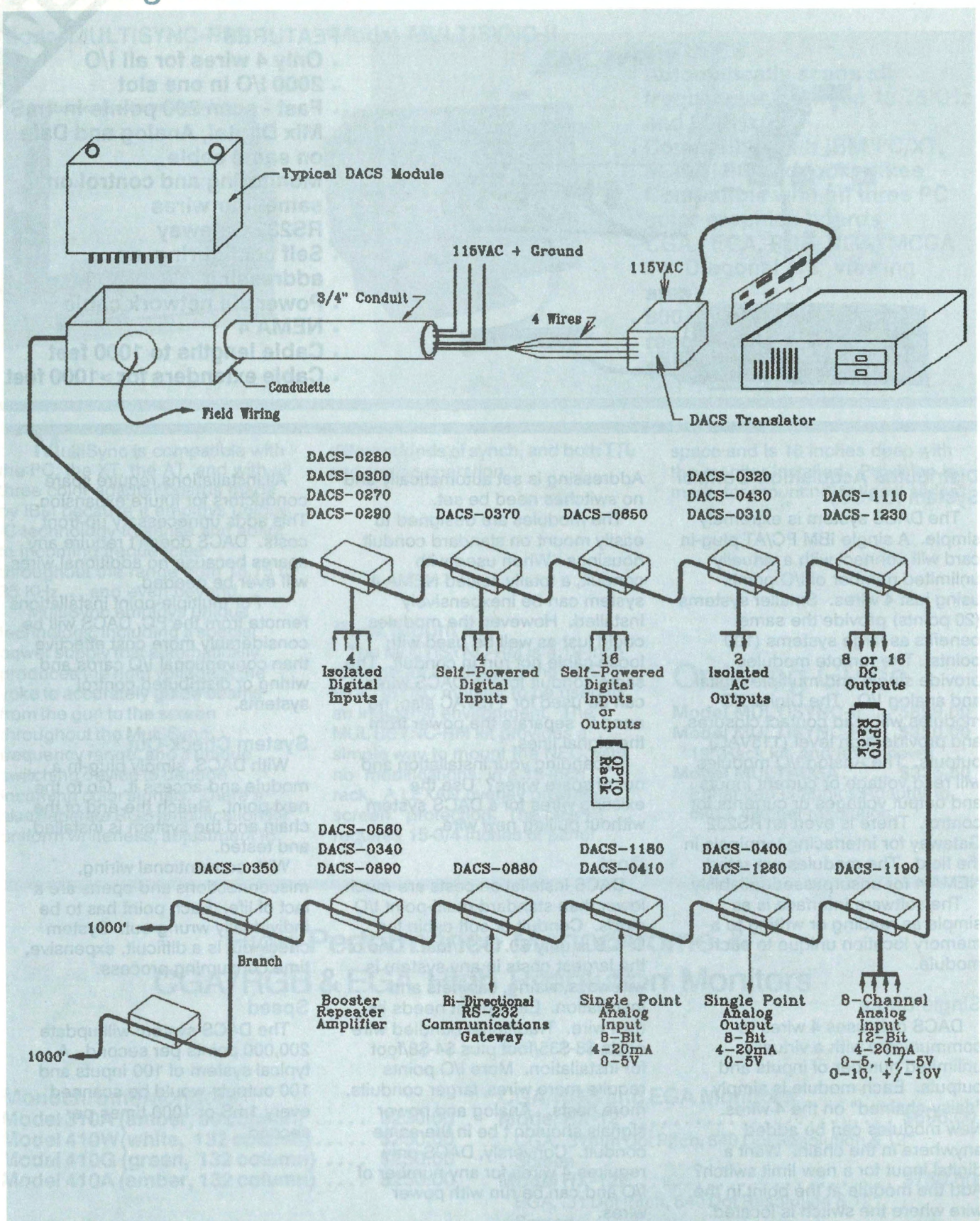
With DACS, simply plug-in a module and access it. Go to the next point. Reach the end of the chain and the system is installed and tested.

With conventional wiring, misconnections and opens are a fact of life. Each point has to be individually wrung out. System check-out is a difficult, expensive, time consuming process.

Speed

The DACS system will update 200,000 points per second. A typical system of 100 inputs and 100 outputs would be scanned every 1mS or 1000 times per second.

Block Diagram



Service-Support-Reliability

DACS Translator

DACS-0670

Consists of an XT form factor plug-in card, cable and Power Module. The cards plugs into any full-length XT or AT slot. The Power Module resides outside the computer and interfaces to the DACS modules. The Power Module requires 110VAC for operation. Included is complete documentation, BASIC, Pascal and Assembly programs and a diagnostic program.

One DACS TRANSLATOR will interface up to 4080 I/O.

Digital Input Modules

Quad Isolated Input Modules

DACS-0270	12-48VDC 3mS response
DACS-0280	90-130VDC 3mS response
DACS-0290	12-48VDC/VAC
DACS-0300	90-130VDC/VAC

These modules receive four separate contact or semiconductor closures from switches, photosensors or other bi-valued sensing devices. Input signals may be positive, negative or AC from 60Hz to 1000Hz. An LED for each input displays the status for that input. Complete electrical isolation between the inputs and chain is achieved with optical couplers. Therefore, separate auxiliary power must be supplied to the sensor side of the module.

Quad Self-Powered Input Module

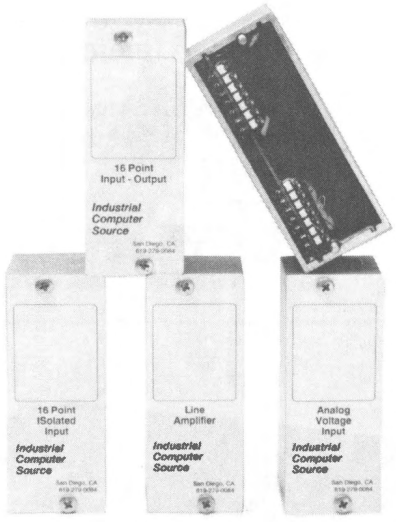
DACS-0370

Receives four non-isolated digital inputs powered from the communications circuits. 10VDC at 50mA is available from the module for sensor device power. Can be used for dry contacts.

16-Point Self Powered Input Module

DACS-1080

Receives sixteen non-isolated digital inputs powered from the communications circuits. 10VDC at 50mA is available from the module for sensor device power. Can be used for dry contacts.



Digital Output Modules

Dual AC Output Module

DACS-0310	90-130VAC Zero Crossing
DACS-0430	12-48VAC No Zero crossing

Outputs separately powered and optically isolated to 1500V from communications circuit. DACS-0310 has "Zero Crossing" switching. 3A continuous, 20A surge each channel.

Dual DC Output Module

DACS-0320

Outputs separately powered and optically isolated to 1500V from the communications circuits. 10-60VDC, 2A continuous, 8A surge each channel. Protected for inductive loads.

8-Point Output Module

DACS-1110

Not isolated. Drives 50VDC at 70-200mA each channel directly. Outputs are bipolar current sinking d'Arlingtons.

16-Point Output Module

DACS-1230

Same as DACS-1110 except provides 16 outputs.

Mixed Digital Input and Output Modules

Dual Input/Single Output Modules

DACS-0380	(DC)
DACS-1260	(AC)

Two non-isolated, self-powered inputs accept contact closures. Isolated output switches 115VAC at 1A or 50VDC at 1A.

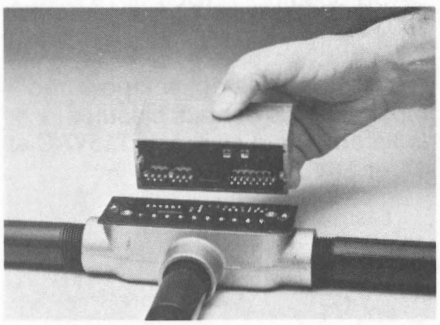
16-Point I/O Module

DACS-0650
This module is intended for remote, clustered I/O groups. Provides for automatic fault location. Module can drive light loads and accept sensor inputs directly or it can couple to isolated I/O via receptacles having drivers and isolators. Programmable for 16 inputs, 16 outputs or 8 input plus 8 outputs. Specifications are same as DACS-1230 for outputs and DACS-1080 for inputs. Use the DACS-0750 for OPTO-22 interface.

Analog Inputs

Single Point, 0-20mA, 8-Bit Analog Input.

DACS-0410
Module provides a single channel of 0-20mA analog input. Can be calibrated for 4-20mA. Resolution is 8-bits (1 part in 256 counts). The input is not isolated from the communications.



Single Point, 0-5VDC, 8-Bit Analog Input

DACS-1180
Module provides a single channel of 0-5VDC (adjustable to 0-10VDC) analog input. Resolution is 8-bits. The input is not isolated from the communications.

8-point Analog Input Card

DACS-1190
The DACS-1190 is a card in a box providing 8 analog inputs, 12-bit resolution (1 part in 4096 counts). The Analog input ranges are 0-5V, 0-10V, +/-5V, +/-10V, and 0-20mA. All inputs are isolated from the communications. The DACS-1160 is mounted in a provided Nema 12 enclosure. Requires 115VAC to power the card.

Analog Outputs

Single Point 4-20mA Analog Output Module

DACS-0400
Module provides a single channel of 4-20mA (adjustable to 0-20mA) output. Up to 15VDC of loop power can be provided or an external voltage source may be connected to power the loop. The output may be adjusted to 0-20mA. Resolution is 8-bits. The output is not isolated from the communications.

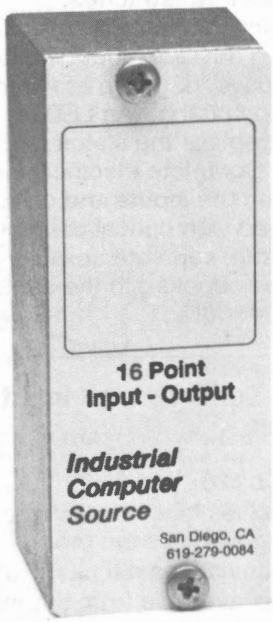
Single Point 0-5VDC Analog Output Module

DACS-1260
Module provides a single channel of 0-5VDC output. Resolution is 8-bits. The input is not isolated from the communications.

Special Modules

RS-232 Gateway Card

DACS-0880
Adapts EIA RS-232 devices. Supports bi-directional communication of ASCII characters. Supports hand-shaking. Useful for data terminal connections or remote serial devices. Requires 115VAC power. Should be mounted in user provided enclosure.



FREE Technical Support

Repeater Card

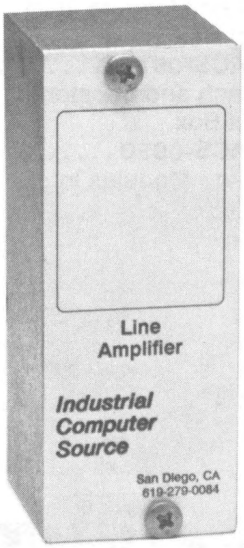
DACS-0340

For extension of transmission line beyond 1000 feet and increasing number of modules on line. Powered by 115VAC. Isolates two sections of line and reconstructs and retransmits all signals. Should be mounted in user provided enclosure or box. Dimensions are 4-7/8" x 6-3/4".

Booster Card

DACS-0560

Functionally similar to Repeater (DACS-0340) but does not isolate two sections of line. Can be powered from communications line or separate 24VDC supply. Standard module for condulette mounting.



Line Amplifier

DACS-0890

Similar to Booster (DACS-0560) but does not retime all signals and does not have echo feature. Can re-power communications without affecting chain addressing. Standard condulette mounting.

Branch Controller

DACS-0350

Provides means for connecting a branch to a main communications line.

Chain Validation Module

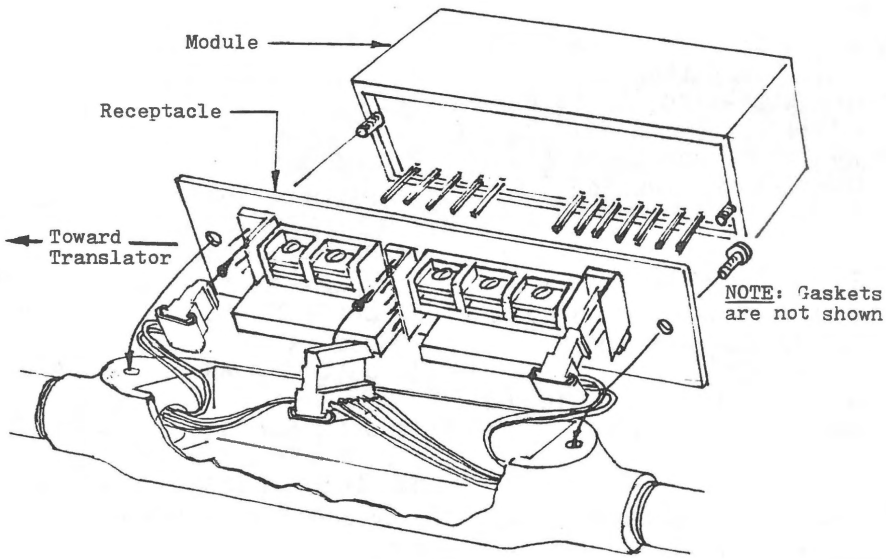
DACS-0330

Used to terminate main and branch lines to provide automatic communications error detection.

Module Mounting and Receptical Assembles

For Single Mounting

Adapt single DACS module to 3/4" conduit outlet bodies. Provide convenient means for making all connections to the module. Socket patterns are module specific. See price list for model numbers.



OPTO22 Interface Board

DACS-0750

DACS-1080, DACS-1230 or DACS-0650 attaches to end of PB16 or PB8 OPTO rack for controlling high-level isolated I/O. OPTO modules are available for DC and AC I/O to 280V and 3Amps. Board and OPTO rack should be mounted in user provided enclosure. Uses 15V OPTO modules such as IAC15. Requires 115VAC. Provides power for OPTO rack.

Ordering Guide

Translator

Model DACS-0670 .... $895.00
DACS Translator. Includes plug in card and power supply.

Digital Input Modules

Model DACS-0270 .... $ 95.00
Quad DC Input Module
Model DACS-0280 .... $ 95.00
Quad DC Input Module
Model DACS-0290 .... $ 95.00
Quad AC/DC, 24V Isolated Input Module
Model DACS-0300 .... $ 95.00
Quad AC/DC, 115V Isolated Input Module
Model DACS-0370 .... $ 90.00
Quad Self-Powered Input Module
Model DACS-1080 .... $125.00
16-Point Self Powered Input Module

Digital Ouput Modules

Model DACS-0310 .... $105.00
Dual AC, 24V Isolated Output Module
Model DACS-0430 .... $105.00
Dual AC, 115V Isolated Output Module
Model DACS-0320 .... $ 95.00
Dual DC Output Module
Model DACS-1110 .... $130.00
8-Point Output Module
Model DACS-1230 .... $150.00
16-Point Output Module

Digital I/O Modules

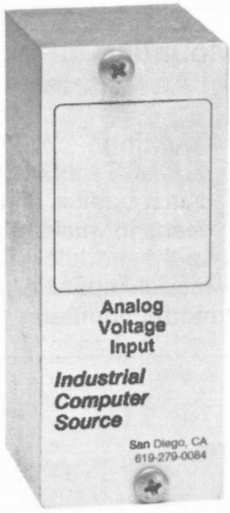
Model DACS-0380 .... $ 80.00
Dual Input/Single Output Modules (DC)
Model DACS-0650 .... $160.00
16-Point I/O Module

Analog Input Modules

Model DACS-0410 .... $185.00
Single point, 0-20mA, 8-Bit Analog Input
Model DACS-1180 .... $185.00
Single Point, 0-5VDC, 8-Bit Analog Input

Analog Output Modules

Model DACS-0400 ... $185.00
Single Point 0-20mA Analog Output Module
Model DACS-1260 ... $185.00
Single point 0-5VDC Analog Output Module
Model DACS-1190 ... $865.00
8-point 12-bit Analog Input Card with Power Supply



Special Modules

Model DACS-0880 ... $475.00
RS-232 Gateway Card
Model DACS-0340 ... $395.00
Repeater Card
Model DACS-0560 ... $205.00
Booster Card
Model DACS-0890 ... $195.00
Line Amplifier
Model DACS-0350 ... $325.00
Branch Controller
Model DACS-0330 ... $100.00
Chain Validation Module

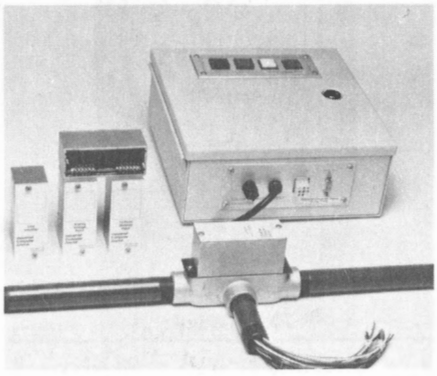
Single Mounting Adapters

Model DACS-0000 .... $ 25.00
Quad Input Module Receptacle
Model DACS-0010 .... $ 20.00
Dual AC Output
Model DACS-0020 ..... $ 25.00
Repeater, Booster Receptacle
Model DACS-0030 ..... $ 25.00
Branch Receptacle
Model DACS-0040 ..... $ 25.00
Chain Validation Receptacle
Model DACS-0050 ..... $ 25.00
Dual DC Output Receptacle

Model DACS-0060 ..... $ 25.00
Quad Self Powered Input Receptacle
Model DACS-0150 ..... $ 25.00
2 In/1 Out Receptacle
Model DACS-0230 ..... $ 25.00
Analog Current Out Receptacle
Model DACS-0240 ..... $ 25.00
Analog Current In Receptacle

Remote Module Connectors for Connect Box Mounting

Model DACS-0950 ..... $ 25.00
For I/O modules In Connect Box
Model DACS-0960 ..... $ 45.00
For 16-Point Module In Connect Box
Model DACS-0970 ..... $ 25.00
For Branch and Booster In Connect Box
Model DACS-0990 ..... $ 30.00
For Analog Modules In Connect Box



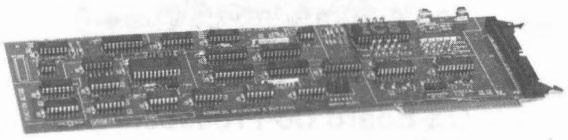
Miscellaneous Connectors

Model DACS-0750 ..... $220.00
For 16-Point Module/SSR, OPTO Interface

To Order Call: 1-800-523-2320

Analog I/O Cards

Model ML-16

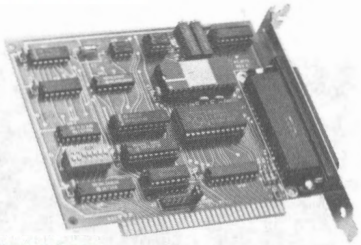


FEATURES

- 16 Single-Ended or 8 Differential A/D
- Two Analog Outputs
- Eight Digital Inputs
- Eight Digital Outputs
- Three Programmable Counter/Timers
- 8-Bit A/D and D/A Resolution

Model ML-16 ..... $289.00
Model ML-16TK ..... $ 99.00
Model Lablog $100.00
Data Acquisition, monitoring and control package.
Demo Disk Available

Model AIO8-B

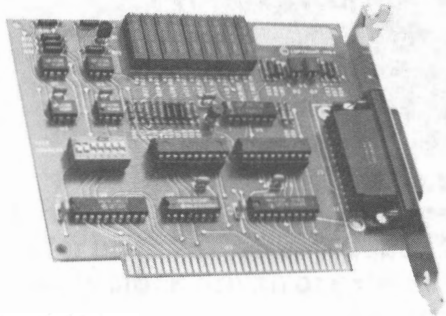


FEATURES

- Compatible with IBM PC/XT/AT
- 8 Single-Ended Analog Inputs
- 3 Digital Inputs (TTL)
- 4 Digital Outputs (TTL)
- 30,000 Samples per Second
- AIO8-G (Programmable Gain)
- PS/2 Model 30 Compatible

Model AIO8-B $399.00
Card only
Model AIO8-G $560.00
Programmable gain
Model STA-08 ..... $115.00
Termination card
Model C1800 ..... $ 25.00
18" cable

Model AOB2

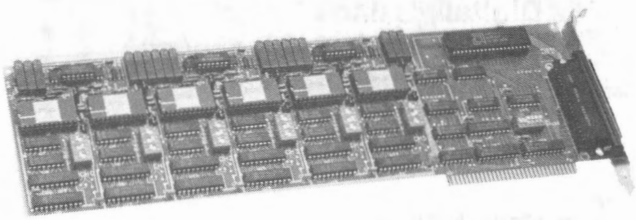


FEATURES

- 2 Analog Output Channels
- 12 Bit Resolution
- +5, +10, +/-10V Output Ranges
- 4-20 mA Current Loop Capability
- IBM PC/XT/AT Compatible
- Calibration Software Included

Model AOB2 ..... $325.00
Model STA-U $115.00
Termination card
Model C1800 ..... $ 25.00
18" cable

Model AOB6



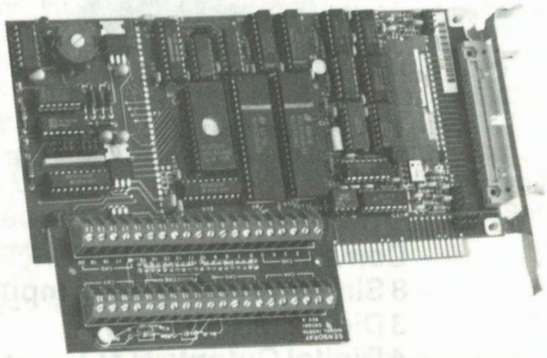
FEATURES

- 6 Analog Outputs
- 12 Bit Resolution
- 24 Digital I/O
- IBM PC/XT/AT Compatible
- +5, +10, +/-5V Output
- 4-20mA Current Loop Capability

Model AOB6 ..... $761.00
Card only
Model STA-U $115.00
Termination card
Model C1800 ..... $ 25.00
18" cable

Multisensor Interface

Model S409



FEATURES

- **Direct Sensor Interface**
- **RTD, TC, Strain/Pressure Gages, Thermistor, Voltage and 4-20mA Inputs**
- **15 Bit Resolution**
- **8 Channels, Differential**
- **On-Board Co-Processor**
- **Software Programmable Alarm Limit Values, Digital Filtering, Strain Gauge Factors**
- **Tolerates 95VAC Common Mode Voltage**

Description

The S409 Universal Sensor Interface processes up to eight sensor inputs directly to PC/XT/AT and compatible computers. It provides sensor excitation, filtering and linearization for RTD's, Thermistors and Strain Gauges. The microprocessor is programmed to accept sensor min/max, alarm limits, strain gauge factors and digital filter time constants - all via I/O ports from the PC bus. The model S409 may be configured for any combination of sensor inputs - e.g. four type J T/C's with two 4-20mA inputs and two strain gauges. No trimpots are required for calibration. Factory data is stored in EEPROM.

Model S409 ..... $695.00
Includes S409, test software and manual

Model 7409TA ..... $ 65.00
Termination board, no cold junction

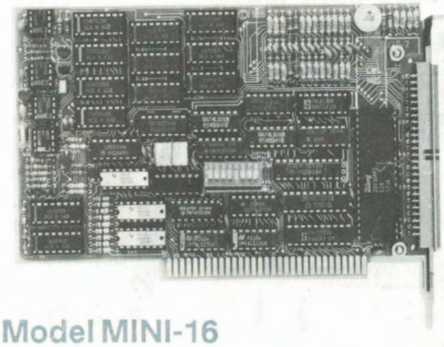
Model 7404T ..... $ 80.00
Termination board, cold junction

Model 7409C ..... $ 20.00
Interconnect 18" cable

16 Bit A/D Card

FEATURES

- **8 Differential Analog inputs**
- **12 Digital I/O lines**
- **11 Software selectable ranges**
- **CJC for thermocouple and linearization for 10 T/C types**
- **Factory calibrated**



Model MINI-16

The Model MINI-16 interfaces 8 differential analog inputs (voltage or current) and 12 digital I/O lines to the IBM PC/XT/AT, or compatible computer. Designed for high accuracy and speed, the MINI-16 is the most cost effective 16 Bit I/O card on the market.

The MINI-16 accepts 8 differential inputs in either voltage or current. The MINI-16 has 11 software selectable ranges, voltage inputs are +/- 25 mV, +/-50 mV, +/-250 mV, +/-500 mV, +/-5 V, 10 V. The current inputs are +/- 1 mA, 2 ma, +/-10 mA, 20 mA, +/-50 mA. The MINI-16 also has an AUTORANGE function. The Autorange selects the best range from 1 microvolt to 10 volts, or 10,000,000 : 1.

The MINI-16 plugs into one of the peripheral slots inside your computer. The termination board plugs into the card and sensors may be connected directly to the termination box. Detailed information on connecting specific sensors is included in the user manual.

Model MINI-16..... $995.00
Includes software

Model T21 ..... $270.00
Termination for thermocouple

Model T31 ..... $149.00
General purpose termination

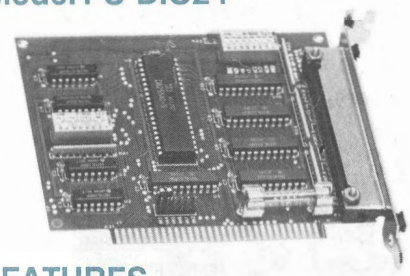
Model T35-050 ..... $184.00
Termination for 100 ohm Platimum RTD

Model B10 ..... $ 30.00
Plastic case for termination

Easy To Order

Digital I/O Cards

Model PC-DIO24

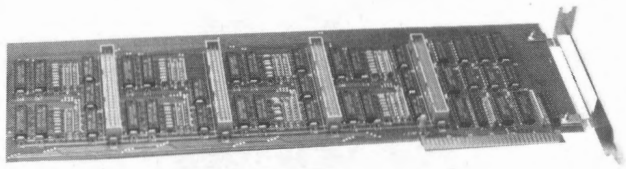


FEATURES

- Plugs into IBM PC/XT/AT BUS
- 24 buffered TTL digital I/O lines
- Sinks 24mA - Source 15mA per bit
- 50-pin ribbon cable connector
- Pin-compatible with OPTO-22 and other I/O modules
- Interrupts

Model PC-DIO24 ..... $195.00
Model CAB50-6 ..... $ 40.00
6' conductor cable
Model CAB50-10 ..... $ 50.00
10' conductor cable
Model PB24 ..... $129.00
Power relay mounting card

Model DIO64

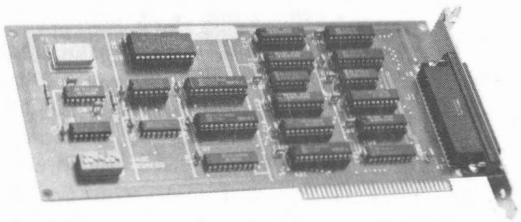


FEATURES

- 64 Buffered TTL Digital I/O
- 50 Pin Ribbon Connector
- Pin Compatible with OPTO-22 and other I/O Modules
- IBM PC/XT, AT Compatible

Model DIO64 ..... $ 395.00
64 channel I/O board and manual.

Model HSD-16

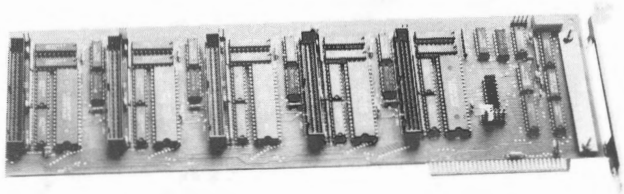


FEATURES

- Transfer up to 250,000 bytes per second
- Internally clock driven or external triggering
- DMA, Interrupt, or program controlled transfers
- FREE SOFTWARE DRIVER greatly simplifies programming
- 16 or 8 bit digital transfers

Model HSD-16 ..... $345.00
Model STA-U $115.00
Termination Board
Model C1800 ..... $ 25.00
18" cable
Model STREAMER $250.00
Hi-speed data storage software

Model DIO120



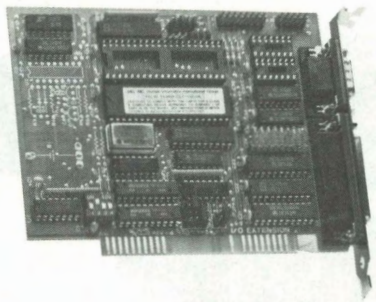
FEATURES

- Plugs into IBM PC/XT/AT Bus
- 120 Buffered TTL digital I/O
- Sinks 24mA - Sources 15mA per bit
- 50 Pin ribbon connector
- Pin compatible with OPTO-22 and other modules
- Model DIO216 - 216 dgital I/O
- 2 Serial ports

Model DIO120 ..... $595.00
120 buffered digital I/O
Model DIO216 ..... $795.00
216 digital I/O

Serial Communications

Model SPC20

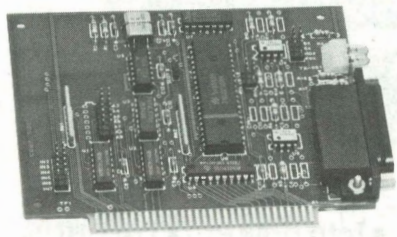


Serial Port FEATURES

- RS232
- PC Compatible
- COM1 or COM2
- Printer Port
- LPT2 or LPT3
- Optional second serial port & connector

Model SPC20 ..... $ 95.00
Model SPC20-OPT ..... $ 30.00
Second serial port

Model RS422-AT

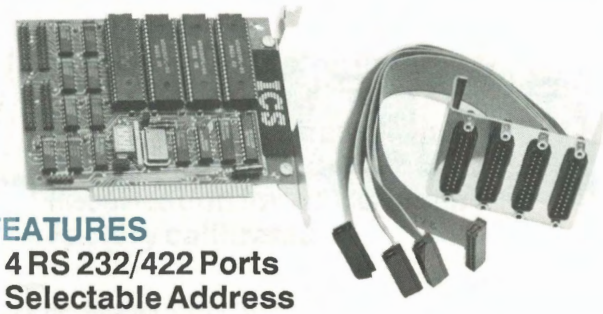


FEATURES

- RS-422/485 Interface
- Selectable Address
- Two or Four Wire Operation
- Short Slot
- PC/XT/AT Compatible
- Max. Baud Rate 56k

Model RS422-AT $175.00

Model FP-232/422



FEATURES

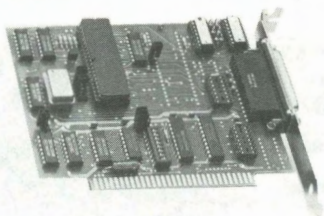
- 4 RS 232/422 Ports
- Selectable Address
- Short Slot
- Modem Control Signals on All Four Ports
- Free Software Allows you to Address COMM 1-6

Model FP-232 ..... $449.00
Model FP-232AT $529.00
Model FP-422AD ..... $ 95.00
422 Adaptor

COMMBUFF is an interrupt driven buffer program for the FP-232. Four 4k buffers are created at the high end of memory for storage of received characters. Data is retrieved by the user program directly accessing the buffers in memory. Example programs are provided.

Model COMMBUFF $200.00

Model ACB2



FEATURES

- Sync/Async operation using Intel 82530
- Selectable port address, IRQ level, DMA channel
- Supports TD, RD, RTS, CTS, RXC, TXC, signals
- External clock jumper for transmit clock
- DMA to 880k Baud
- SDLC, HDLC & X.25 compatible

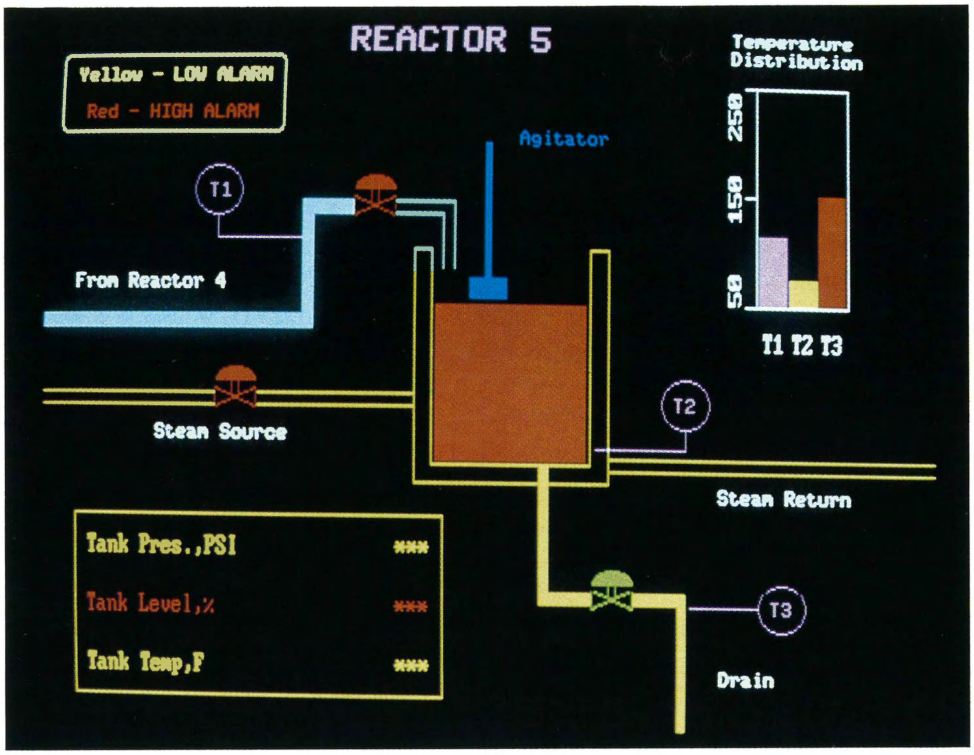
The ACB2 advanced communication board provides the IBM PC/XT/AT and compatibles with a synchronous high-speed DMA communication port. The card supports RS-232 & RS-422 communications.

Model ACB2 ..... $350.00

SOFTWARE
Data Acquisition & Control

$200 OFF*

LABTECH announces LT/CONTROL, the fully-featured data acquisition and control software that is really easy to use!



LT/CONTROL from LabTech takes advantage of a program structure proven in use over the past four years. Building on the reliable menu driven format of NOTEBOOK, LabTech now offers LT/CONTROL as an extension of their capabilities to process and manufacturing control requirements.

Even if you have never used NOTEBOOK, you can be running control and acquisition programs with only a few hours of training.

Setups from NOTEBOOK can be loaded and run by LT/CONTROL without modification. LT/CONTROL supports the same hardware I/O devices that NOTEBOOK does. What you gain is more features for process control and operator information.

LT/CONTROL offers both PID and BANG-BANG control functions. PID tuning constants may be changed by the operator on the fly without interrupting the control process. PID loops are block-structured allowing outputs from a loop to be used as inputs to other loops. Complex control schemes using feed-forward and cascade are possible with simple menu setups. RAMP and SOAK operations can be easily accomplished with scheduled setpoint values or via real-time calculated values.

For efficient operator feedback and information displays, nothing beats graphics. LT/CONTROL offers you the ability to present your data in pictorial display providing instant information not just data to your operator. With animated display elements such as bargraphs, trend lines and colors that change according to status, operators can make fast and accurate decisions when required. LT/CONTROL is compatible with EGA and VGA systems including the new PS/2 series adapters and monitors.

For users with multiple requirements, there is no need to buy a full LT/CONTROL for each device running control. After you have your initial LT/CONTROL system you can use it to develop applications which can run under the RUN TIME version of LT/CONTROL. Not only can this make your development task easier but it offers system security against unauthorized setup changes. Requirements are, PC/AT or compatible, 640K RAM, EGA or VGA, hard disk, parallel port. **Preview Package Available.**

***Receive $200 OFF LT/CONTROL with the purchase of a supported I/O card!**

Model LAB2 ..... $2,995.00
Includes LT/Control, Real Time Access, Full manuals, and key.

Model LAB2-RUN $1,495.00
Includes Run-time key.

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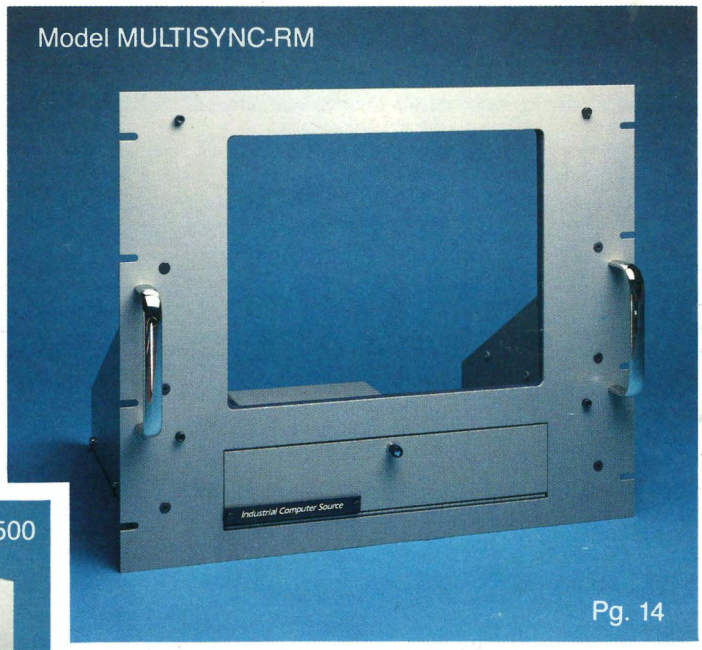
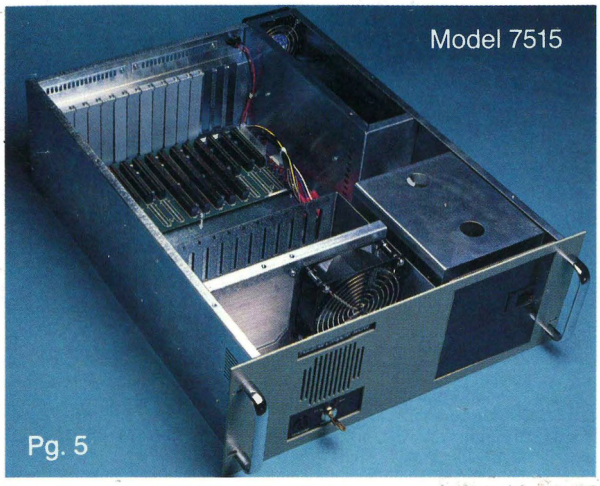
Call for your full line Software Source-Book. More than 200 packages available!





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